(No Model.)

J. N. LYLE.

OIL DISTRIBUTER FOR HARBORS, &c.

No. 393,995. Patented Dec. 4, 1888.

Fig. 1.

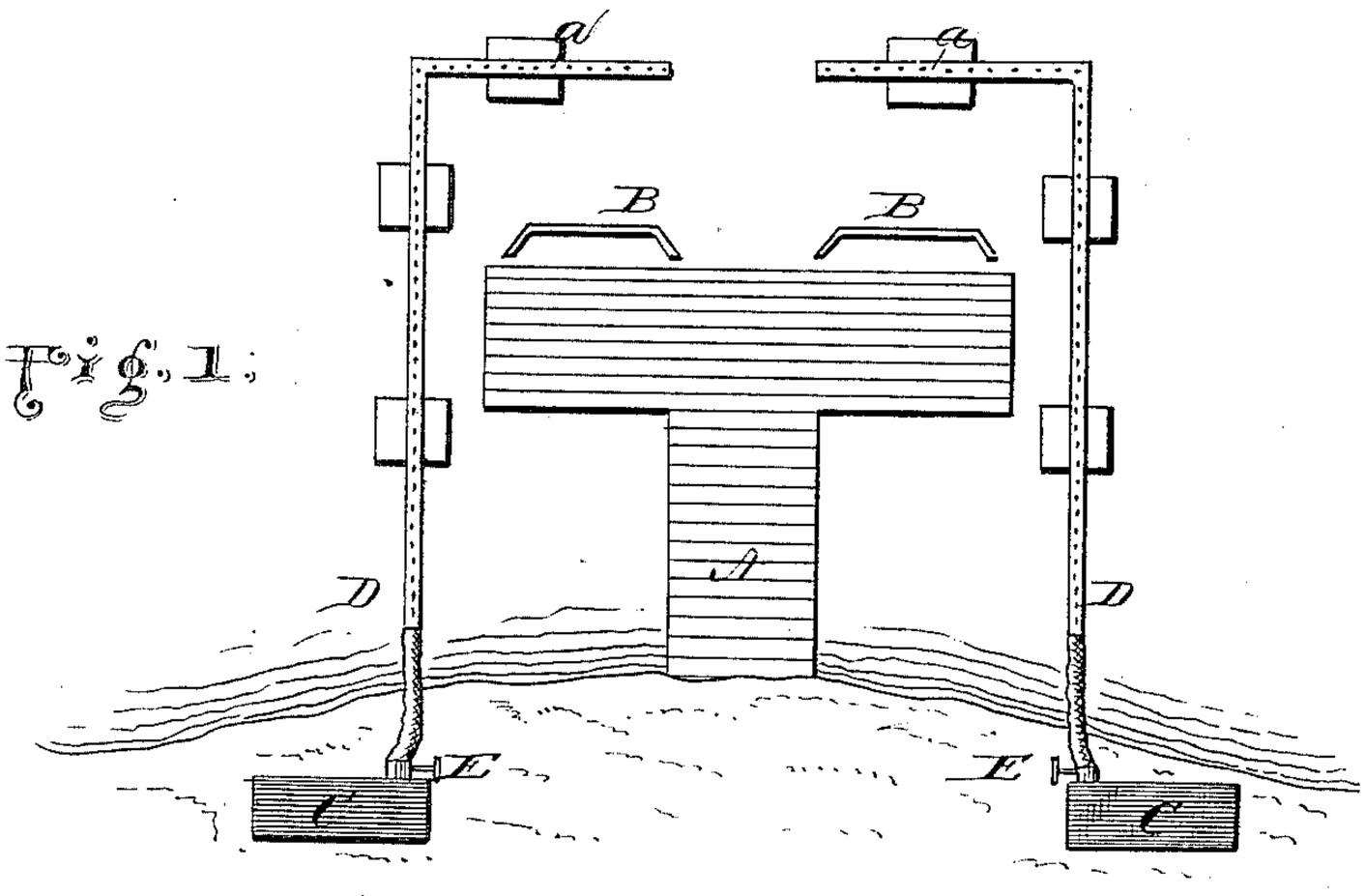
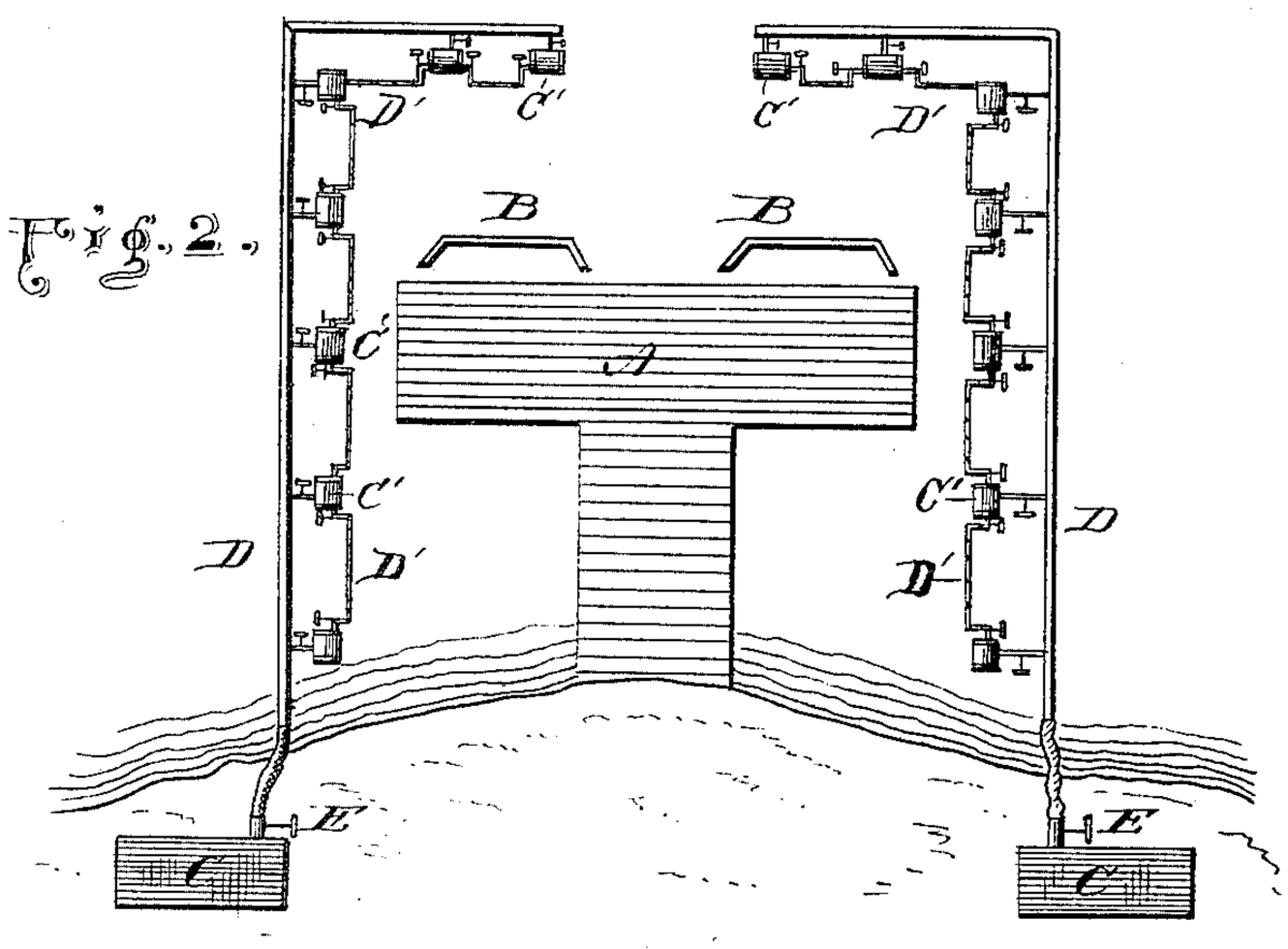


Fig. 2.



WITNESSES.
F. L. Ourand.
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INVENTOR:
John N. Lyle.
by Louis Bagger & Co.
his Attorneys.

UNITED STATES PATENT OFFICE.

JOHN NEWTON LYLE, OF WACO, TEXAS, ASSIGNOR OF TWO-THIRDS TO E. W. BOWLEY AND JAMES B. GILMER, OF SAME PLACE.

OIL-DISTRIBUTER FOR HARBORS, &c.

SPECIFICATION forming part of Letters Patent No. 393,995, dated December 4, 1888.

Application filed May 19, 1888. Serial No. 274,442. (No model.)

To all whom it may concern:

Be it known that I, JOHN NEWTON LYLE, a citizen of the United States, and a resident of Waco, in the county of McLennan and State of Texas, have invented certain new and useful Improvements in Devices for Quieting Waves by Application of Oil; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a plan view illustrating the use of my improved device in which the oil is distributed directly from the main or supply pipe, and in which the pipe is flexibly connected with the supply-tank upon shore; and Fig. 2 is a similar view in which the oil is distributed from auxiliary tanks connected with the main pipe.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to appliances or apparatus for applying oil to the surface of the sea in the neighborhood of wharves, piers, breakwaters, and harbors of refuge, and is based upon the well-established fact that the application of oil to the surface or waves of a tempestuous sea operates to calm and quiet the water and greatly reduce the height and severity of the waves and swells.

My invention has for its object to apply this principle to the use of harbors and similar points of shipping; and to this end it consists in the construction and combination of parts of the improved device or appliance which will be hereinafter more fully described.

On the accompanying drawings, the letter A designates the pier or wharf, which may be of any suitable construction. That portion of the pier which faces the sea may be protected by break-swells, (shown at B B,) which may be made of stone or timber in any desired manner, and the harbor may be inclosed in part by a sea-wall, breakwater, or any of the other ordinary artificial forms of protection, if necessary.

Upon the shore, in convenient proximity to the wharf, I construct one or more tanks, (shown at C,) of considerable capacity, and pipes D, provided with suitable stop-cocks or regulating-valves, (shown at E,) lead from these tanks out into the harbor on the outside of the breakwater. In localities where the tide rises to an exceptional height—as in the Bay of Fundy and other parts of the Atlantic seacoast—these pipes where they connect with the supply-tanks may be provided with flexible hose-connections, and their outer ends where they extend out into the harbor may be provided with buoys so arranged that the pipes will be raised or lowered with the ebb or flow. This arrangement, however, which I have illustrated in Fig. 1, is only necessary where the tide rises to an exceptional height.

That portion of the pipe which extends out into the harbor in proximity to and surrounding the pier is provided with a series of auxiliary supply-tanks, which tanks are connected by supplementary pipes having a series of fine apertures, (shown at *a*,) through which the oil, which is fed into the supplementary pipe from the auxiliary tank, escapes. In case of severe weather, when the waters of the harbor rise to a dangerous height, it is only necessary to open the valves which connect the perforated pipes with the auxiliary tanks, and the valves E, which connect the main tanks with the main pipe, by which means oil will flow through the pipes to the extreme ends of the same, and, escaping through the fine apertures *a*, will enter the water and rise to the surface of the same, thereby speedily quieting the harbor and making it perfectly safe for vessels to approach the pier. By this arrangement of auxiliary tanks along the line or lines of pipes the entire area of the harbor may be effectually supplied with oil regardless of its size or extent.

In this construction the main line of pipes D are not perforated, but the auxiliary pipes D′ between the auxiliary tanks C′ are perforated. In this manner the oil can be delivered from the tank C to the most distant auxiliary tank C′, as also to the intermediate ones, without danger of its escaping before it reaches them. From these auxiliary tanks oil is fed to the auxiliary lines, and by them it is de-

livered upon the surface of the water. By means of stop-cocks between the main lines and the auxiliary tanks any desired number of the auxiliary tanks can be shut off and the oil be distributed through the remaining ones.

Having in the foregoing described the essential features of my invention, I desire to be understood that I do not confine myself to the precise or identical construction therein shown, for the reason that the arrangement and construction of my appliance in detail will necessarily depend to a greater or lesser extent upon the topographical and geographical conditions under which it is to be used, and alterations or modifications will readily suggest themselves in accordance with the conditions under which, in a given case, the device is to be used, without thereby departing from the spirit of my invention.

I claim and desire to secure by Letters Patent of the United States—

In a device for distributing oil upon the waves in the vicinity of piers and harbors, the combination, with the main tank upon the shore, of a main pipe extending from it into the water, auxiliary tanks along the main line, and perforated auxiliary lines connected with the auxiliary tanks, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JOHN NEWTON LYLE.

Witnesses:
K. H. McKay,
J. B. Herndon.